

WHAT IS CLAIMED IS:

1. A storage system comprising:  
at least one block data input/output port;  
5 at least one file data input/output port;  
data input/output means for inputting/outputting block data via the block  
data input/output port and file data via the block data input/output port;  
at least one storage drive;  
a file system for transforming the file data into a block data format or the  
10 block data into a file data format; and  
managing means for managing storage areas in the storage drive thereby  
writing into or reading from the storage areas at least one of the file data and the  
block data before or after the transforming.
- 15 2. The storage system as recited in claim 1, wherein the managing means  
includes an data format table updated an initial or pre-transforming data format for  
each of the stored block data and the stored file data with respect to one  
corresponding storage area number assigned to each of the storage areas.
- 20 3. The storage system as recited in claim 2, wherein the unique storage area  
number is assigned to one storage area when the block data or the file data is written  
in.
- 25 4. The storage system as recited in claim 2, wherein storage areas are of equal  
size , and the data format table is initiated with half of the storage areas are

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designated to store data in the block format and half of the storage areas are designated to store data in the file format.

5. The storage system as recited in claim 1, wherein the data input/output  
5 means includes:

block data input/output means for inputting/outputting block data via the  
block data input/output port; and

file data input/output means for inputting/outputting file data via the block  
data input/output port;

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6. The storage system as recited in claim 1, wherein the managing means  
includes means for partitioning the storage areas into a first group for storing data in  
the block format and a second group for storing data in the file format.

- 15 7. The storage system as recited in claim 6, wherein means for partitioning also  
reserves a third group of storage areas that do not belong to either the first group or  
the second group.

- 20 8. The storage system as recited in claim 7, wherein said means for partitioning  
includes means for re-designating some storage areas of one group into another one  
group.

- 25 9. The storage system as recited in claim 1, wherein a total number of the  
input/output ports is fixed, some or all of which are designed for inputting/outputting  
block data or file data.

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10. The storage system as recited in claim 1, wherein the input/output ports handles Internet Protocol compliant packets.
- 5 11. The storage system as recited in claim 1, wherein the data input/output means determines whether the block data or the file data has just been input or is being output so as to decide whether to pass the data for further processing.
- 10 12. The storage system as recited in claim 1, wherein the storage areas are divided in units of logical volumes.
- 15 13. A method for managing block data and file data, comprising:  
inputting/outputting block data and file data;  
providing at least one storage medium;  
transforming the file data into a block data format or the block data into a file data format; and  
managing storage areas in the storage medium thereby writing into or reading from the storage areas at least one of the file data and the block data before or after the transforming step.
- 20 14. The method for managing block data and file data as recited in claim 13, further comprising:  
assigning one corresponding storage area number to each of the storage areas;

recording an original data format for each of the stored block data and the stored file data with respect to the corresponding storage area number in an data format table; and

- 5 updating an initial or pre-transforming data format recorded in the data format table for each of the transformed block data and the transformed file data with respect to the corresponding storage area number.

15. A method for backing up file data stored according to the method recited in claim 13 in an external storage device, comprising:

- 10 retrieving the file data stored in the storage areas;  
transforming the retrieved file data into the block data format; and  
outputting the transformed data to said storage device.

16. A method for backing up block data stored according to the method recited in claim 13 in an external storage device, comprising:

- retrieving the block data stored in the storage areas;  
transforming the retrieved block data into the file data format; and  
outputting the transformed data to said storage device.

20 17. A method for copying file data stored according to the method recited in claim 14 into an internal or external storage area designated according to the method recited in claim 14 for storing block data, comprising:

- copying the file data stored in the storage areas;  
transforming the copied file data into the block data format; and writing  
25 the transformed data to said storage area designated for storing block data.

18. A method for copying block data stored according to the method recited in claim 14 into an internal or external storage area designated according to the method recited in claim 14 for storing file data, comprising:

- 5       copying the block data stored in the storage areas;  
         transforming the copied block data into the file data format; and  
         writing the transformed data to said storage area designated for storing file  
         data.

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